

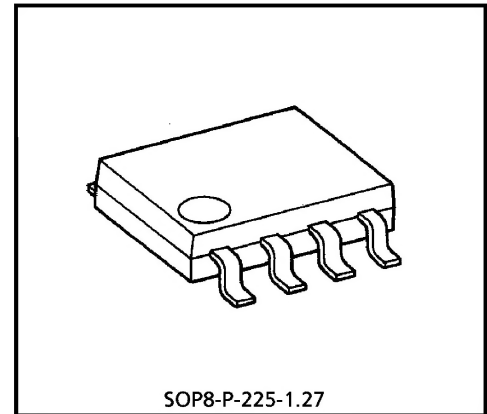
# TD6134AF

## ECL PRESCALER FOR DIGITAL SYNTHESIZED TUNER

TD6134AF is a 2 modulus prescaler developed for low operating voltage digital synthesized tuner, and can operate up to 250MHz.

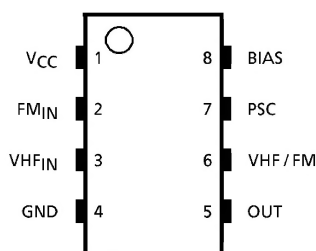
### FEATURES

- Operating frequency range is 50~250MHz.
- 2 modulus prescaler :  $N = 4 \times 15 / 16$   
and  $N = 8 \times 15 / 16$
- Input voltage sensitivity is  $25\text{mV}_{\text{rms}}$ .
- 3V low operating supply voltage
- The package is SOP8 pins.

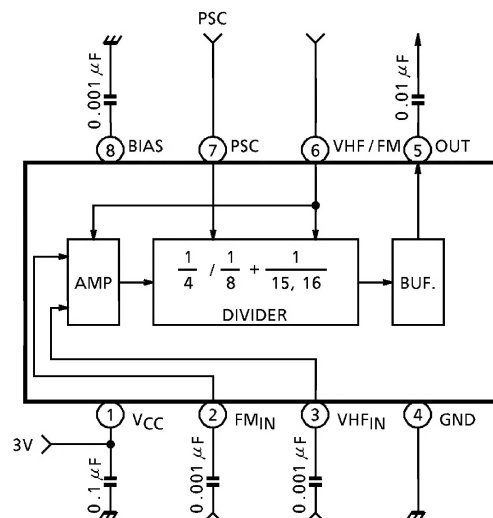


SOP8-P-225-1.27  
Weight : 0.08g (Typ.)

### PIN CONNECTION (TOP VIEW)



### BLOCK DIAGRAM



(Note) This device is vulnerable to surge voltages.  
Take it into account when using this device in your system.

961001EBA2

● TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

## PIN FUNCTION

PIN No.	SYMBOL	FUNCTION	REMARKS
1	V <sub>CC</sub>	Power supply terminal.	—
2	FM <sub>IN</sub>	Signal input terminal from FM local oscillator.	—
3	VHF <sub>IN</sub>	Signal input terminal from TV VHF local oscillator.	—
4	GND	Ground terminal.	—
5	OUT	Divider signal output terminal.	—
6	VHF / FM	Dividing mode control terminal. "H" level input : VHF <sub>IN</sub> is selected, 1 / 8 mode. "L" level input : FM <sub>IN</sub> is selected, 1 / 4 mode.	—
7	PSC	2 modulus mode control terminal. "H" level input : $N = 4 / 8 \times 16$ "L" level input : $N = 4 / 8 \times 15$	—
8	BIAS	Bias capacitor terminal. Bias capacitor is connected.	—

## MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	V <sub>CC</sub>	6.5	V
Power Dissipation	P <sub>D</sub>	200	mW
Input Voltage	V <sub>IN</sub>	- 0.3 ~ V <sub>CC</sub> + 0.3	V
Operating Temperature	T <sub>opr</sub>	- 10 ~ 60	°C
Storage Temperature	T <sub>stg</sub>	- 55 ~ 150	°C

961001EBA2'

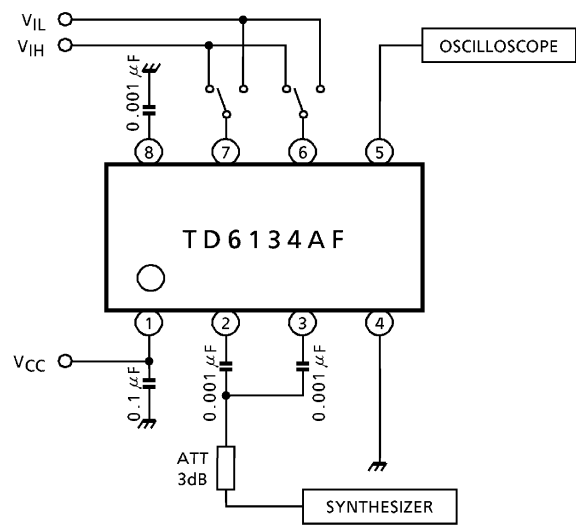
- The products described in this document are subject to foreign exchange and foreign trade control laws.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.

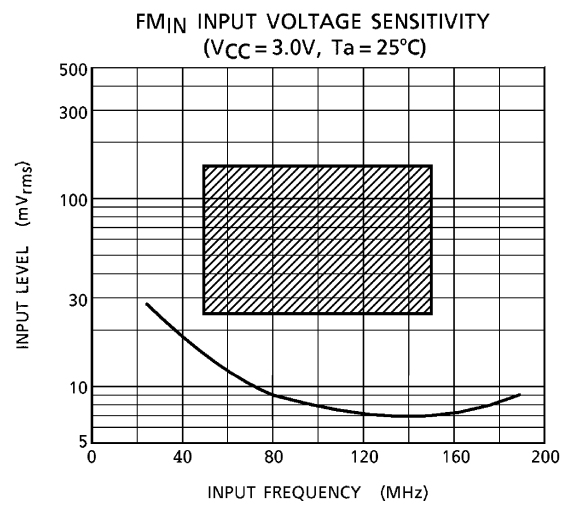
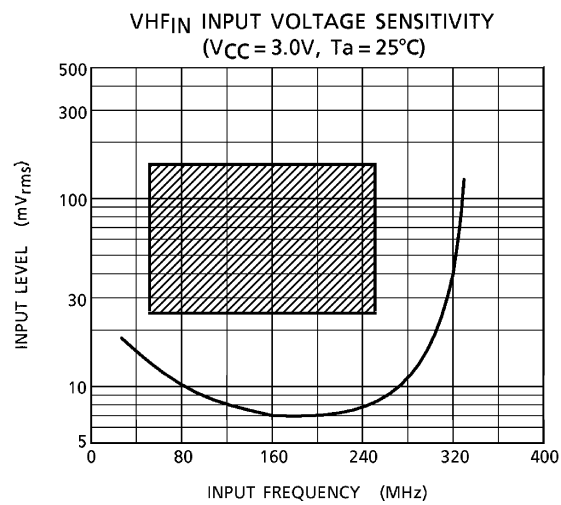
ELECTRICAL CHARACTERISTICS


(Unless otherwise specified,  $V_{CC} = 1.8 \sim 5.5V$ ,  $T_a = -10 \sim 60^{\circ}C$ ,  $f_{in} = 50 \sim 250MHz$ )

CHARACTERISTIC		SYMBOL	TEST CIR- CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage		$V_{CC}$	—	—	1.8	3.0	5.5	V
Supply Current		$I_{CC}$	—	$V_{CC} = 3.0V$	—	5.5	9.5	mA
Operating Frequency Range	"1"	$f_{IN\ 1}$	—	FM <sub>IN</sub>	50	—	150	MHz
	"2"	$f_{IN\ 2}$	—	VHF <sub>IN</sub>	50	—	250	
Input Voltage Range		$V_{IN}$	—	—	25	—	150	mV <sub>rms</sub>
Output Amplitude		$V_{OUT}$	—	—	0.5	—	—	V <sub>p-p</sub>
Input Voltage	"H" Level	$V_{IH}$	—	PSC, VHF / FM	1.6	—	$V_{CC}$	V
	"L" Level	$V_{IL}$	—	PSC, VHF / FM	0	—	1.0	
Input Current	"H" Level	$I_{IH}$	—	PSC V <sub>CC</sub> = 5.0V, $V_{IH}$ = 4.0V VHF / FM	—	—	60	$\mu A$
	"L" Level	$I_{IL}$	—	PSC V <sub>CC</sub> = 5.0V, $V_{IL}$ = 1.0V VHF / FM	—	—	10	

TEST CIRCUIT (Input voltage sensitivity)

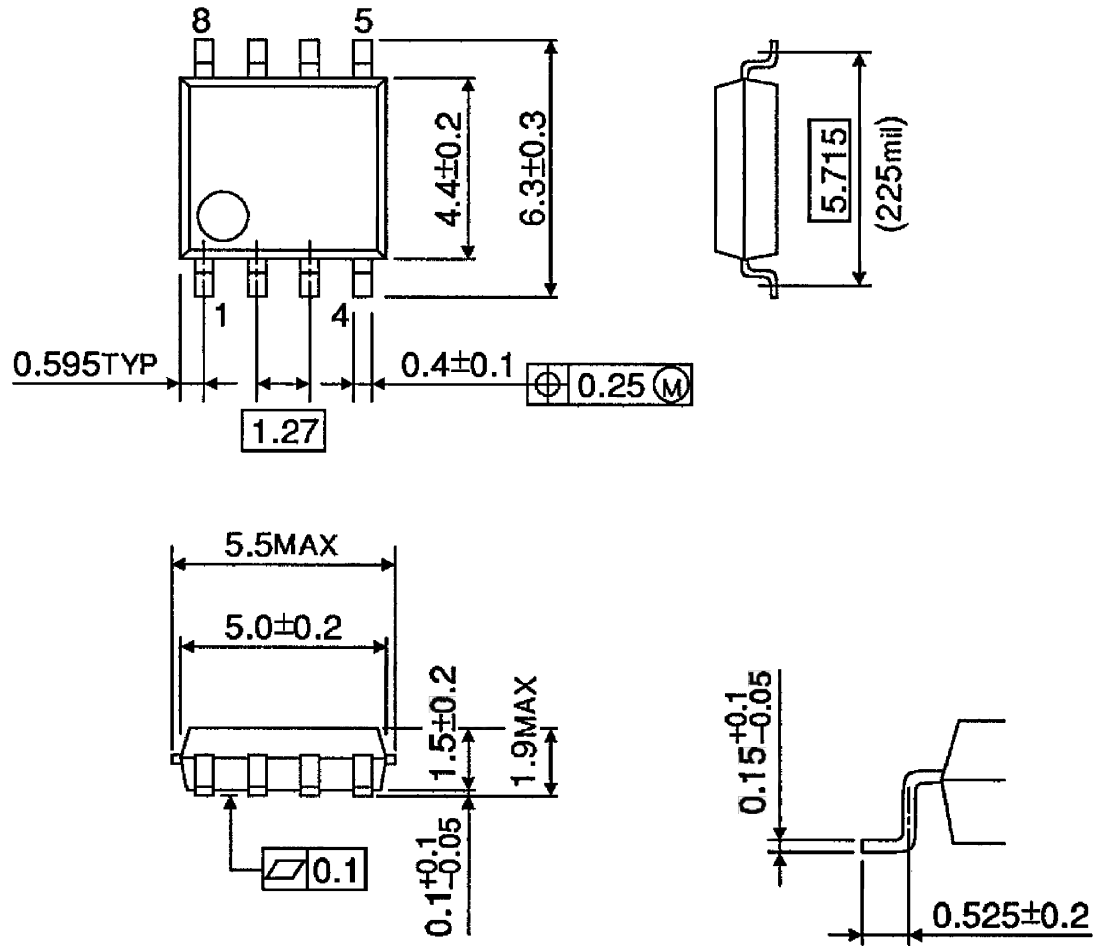




(Note)  Operating Range ( $V_{CC} = 1.8 \sim 5.5V$ ,  $T_a = -10 \sim 60^\circ C$ )

**OUTLINE DRAWING**  
SOP8-P-225-1.27

Unit : mm



Weight : 0.08g (Typ.)